AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-11. (canceled).

12. (previously presented): An automotive alternator voltage control apparatus comprising:

an annular slinger;

a brush holder that is disposed so as to extend radially from an outer peripheral wall surface of said slinger and that is formed such that a brush insertion aperture is open at an inner peripheral wall surface of said slinger;

positive electrode and negative electrode brushes that are inserted into said brush insertion aperture so as to line up in an axial direction of said slinger and be movable in a radial direction of said slinger;

a voltage regulator having an integrated circuit (IC) on which a circuit is formed that controls an automotive alternator output voltage;

a surge absorber that absorbs surges arising due to output voltage control by said voltage regulator; and

a connector for input and output from and to an external device,

wherein:

said slinger, said brush holder, and said connector are constituted by a resin body that is formed integrally using an insulating resin; and

said voltage regulator, said surge absorber, and said connector are disposed radially outside said slinger alongside said brush holder on a first circumferential side of said brush holder.

13. (previously presented): The automotive alternator voltage control apparatus according to Claim 12, further comprising:

a voltage regulator housing aperture to house the voltage regulator; and

a surge absorber housing aperture to house the surge absorber, wherein the voltage regulator housing aperture and the surge absorber housing aperture are formed in said radial direction in a portion of said resin body between said slinger and said connector to align with one another so that said voltage regulator, said surge absorber and said connector are lined up in a single column in said radial direction.

14. (previously presented): The automotive alternator voltage control apparatus according to Claim 13, wherein:

said voltage regulator housing aperture and said surge absorber housing aperture are formed in said resin body to be open at a first axial end of the slinger; and wherein said voltage regulator and said surge absorber are inserted in said voltage regulator housing aperture and said surge absorber housing aperture from said first axial end.

15. (previously presented): The automotive alternator voltage control apparatus according to Claim 14, wherein the IC circuit includes connecting terminals exposed outside of the voltage regulator and wherein the surge absorber includes connecting terminals exposed outside of the surge absorber, and further comprising:

a plurality of insert conductors which are insert molded into said resin body to be exposed at said first axial end and including:

a voltage regulator connecting terminal to connect to the exposed IC circuit connecting terminals at the first axial end, and

a surge absorber connecting terminal to connect to said exposed surge absorber connecting terminals at said first axial end.

16. (previously presented): The automotive alternator voltage control apparatus according to Claim 15, further comprising:

a resin tub disposed on said resin body to surround said voltage regulator housing aperture, said surge absorber housing aperture, said voltage regulator connecting terminal, and said surge absorber connecting terminal; wherein said resin tub is filled with an insulating resin to embed a connection portion between said voltage regulator and said voltage regulator connecting terminal and a connection portion between said surge absorber and said surge absorber connecting terminal.

17. (previously presented): The automotive alternator voltage control apparatus according to Claim 12, further comprising:

a voltage regulator housing aperture formed in a portion of said resin body between said slinger and said connector to house said voltage regulator so that said voltage regulator and said connector are lined up in a single column in a radial direction; wherein said surge absorber is disposed to overlap at a first axial end of the connector with said voltage regulator and said connector.

18. (previously presented): The automotive alternator voltage control apparatus according to Claim 17, wherein said voltage regulator housing aperture is formed on said resin body to be open at a first axial end of the slinger, and wherein the IC circuit includes connecting terminals exposed outside of the voltage regulator and wherein the surge absorber includes connecting terminals exposed outside of the surge absorber, and further comprising:

a plurality of insert conductors which are insert molded into said resin body to be exposed at said first axial end of the slinger and including:

a voltage regulator connecting terminal to connect to the exposed IC circuit connecting terminals at the first axial end of the slinger, and

a surge absorber connecting terminal to connect to said exposed surge absorber connecting terminals at said first axial end of the slinger.

19. (previously presented): The automotive alternator voltage control apparatus according to Claim 18, further comprising:

a cover disposed on said resin body to envelop said voltage regulator housing aperture, said voltage regulator connecting terminal, and said surge absorber connecting terminal; and

a resin injection penetrating aperture disposed through said resin body to communicate between a second axial end of the slinger and an internal portion of said cover; wherein said cover is filled with an insulating resin through said resin injection penetrating aperture to embed a connection portion between said voltage regulator and said voltage regulator connecting terminal and a connection portion between said surge absorber and said surge absorber connecting terminal.

20. (previously presented): The automotive alternator voltage control apparatus according to Claim 12, wherein:

said IC comprises a molded IC comprising the IC chip sealed in a resin.

21. (previously presented): The automotive alternator voltage control apparatus according to Claim 12, wherein:

said IC comprises a hybrid IC comprising the IC chip mounted to an insulating circuit board.

22. (previously presented): The automotive alternator voltage control apparatus according to Claim 17, wherein:

said voltage regulator housing aperture is formed to be open at a first axial end of the slinger;

said IC comprises a single-chip IC comprising the IC chip joined directly to an exposed surface of a heat sink that is disposed inside said voltage regulator housing aperture; and further comprising:

a plurality of insert conductors which are insert molded into said resin body to be exposed around an outer periphery of said voltage regulator housing aperture and includes:

a voltage regulator connecting terminal to which said IC chip is connected with a bonding wire; and

a surge absorber connecting terminal to which said surge absorber is connected; and

an insulating resin gel material to embed said IC chip, said voltage regulator connecting terminal, said surge absorber connecting terminal, said bonding wire, a connection portion between said bonding wire and said voltage regulator connecting terminal, a connection portion between said bonding wire and said IC chip, and a connection portion between said surge absorber and said surge absorber connecting terminal.

23. (previously presented): An automotive alternator voltage control apparatus comprising:

an annular slinger;

a brush holder which extends radially from an outer peripheral wall surface of the slinger comprising:

a brush insertion aperture open at an inner peripheral wall surface of the slinger, and

first and second circumferential surfaces;

positive and negative electrode brushes inserted into the brush insertion aperture to line up in an axial direction of the slinger and be movable in a radial direction of the slinger;

a voltage regulator disposed proximate to and extending radially from the slinger and comprising:

an integrated circuit (IC) which comprises a circuit to control an automotive alternator output voltage;

a surge absorber disposed proximate to and extending radially from the voltage regulator that absorbs surges arising due to the output voltage control by the voltage regulator; and

a connector disposed proximate to and extending radially from the surge absorber to provide an input and an output from and to an external device,

wherein the voltage regulator, surge absorber and connector are aligned proximate the first circumferential surface of the brush holder and distal the second circumferential surface of the brush holder.

24. (new): An automotive alternator voltage control apparatus comprising:

an annular slinger;

a brush holder which extends radially from an outer peripheral wall surface of the slinger comprising:

a brush insertion aperture open at an inner peripheral wall surface of the slinger, and

first and second circumferential surfaces;

positive and negative electrode brushes inserted into the brush insertion aperture to line up in an axial direction of the slinger and be movable in a radial direction of the slinger;

a voltage regulator disposed proximate to and extending radially from the slinger and comprising:

an integrated circuit (IC) which comprises a circuit to control an automotive alternator output voltage;

a connector disposed proximate to and extending radially from the voltage regulator to provide an input and an output from and to an external device, and

a surge absorber disposed at a first axial end of the voltage regulator and the connector and proximate to the voltage regulator and the connector which surge absorber absorbs surge arising due to the output voltage controlled by the voltage regulator;

wherein the voltage regulator, surge absorber and connector are aligned proximate the first circumferential surface of the brush holder and distal the second circumferential surface of the brush holder.